

Kidney and Urologic Diseases Statistics for the United States

National Kidney and Urologic Diseases Information Clearinghouse



U.S. Department
of Health and
Human Services

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DIABETES AND DIGESTIVE
AND KIDNEY DISEASES

Kidney Problems

Chronic Kidney Disease (CKD)

Prevalence (2010): More than 10 percent of people, or more than 20 million, ages 20 years and older in the United States have CKD.¹

End-stage Renal Disease (ESRD)

Prevalence (2008): 547,982 U.S. residents were under treatment as of the end of the calendar year.²

Resulting from these primary diseases:

Diabetes: 205,724
Hypertension: 133,537
Glomerulonephritis: 83,268
Cystic kidney: 26,094
Urologic disease: 13,065
All other: 86,294

Point prevalent rate (2008): For every 1 million U.S. residents, 1,752 were being treated for ESRD as of the end of the calendar year.²

Incidence (2008): 112,476 U.S. residents were new beneficiaries of treatment.²

Resulting from these primary diseases:

Diabetes: 49,482
Hypertension: 31,349
Glomerulonephritis: 7,482
Cystic kidney: 2,671
Urologic disease: 1,567
All other: 19,925

Incidence rate (2008): For every 1 million U.S. residents, 362.4 were new beneficiaries of treatment.²

Mortality (2008): Among U.S. residents with ESRD, there were 151.7 deaths per 1,000 patient years.² There were 88,620 deaths in all patients undergoing ESRD treatment.²

Cost for the ESRD program (2008): \$39.46 billion in public and private spending.²

Point prevalent ESRD treatment counts (2008):

All dialysis treatments: 382,343 U.S. residents with ESRD received dialysis.²

In-center hemodialysis: 350,617

Home hemodialysis: 3,826

Peritoneal dialysis: 26,546

CAPD:* 9,649

CCPD:** 16,868

Other PD:*** 29

*CAPD = continuous ambulatory peritoneal dialysis

**CCPD = continuous cyclical-assisted peritoneal dialysis

***PD = peritoneal dialysis

Uncertain dialysis: 1,197

Number of kidney transplants performed:²

2008: 17,413

2007: 17,519

2006: 18,059

2005: 17,450

2000: 14,629

1995: 12,165

1990: 10,035

1985: 7,505

1980: 3,786

Source of organ donations for kidney transplants performed (2008):²

From deceased donor: 11,382
From living donor (total): 5,968
From living related donor: 3,045
From living distantly related donor: 463
From spouse/life partner: 757
From living unrelated donor: 1,281
Paired exchange: 240
Living-deceased exchange: 99
Unknown relationship: 63
Nondirected donation: 80

Number of people awaiting transplants (February 11, 2011):³

Kidney (only): 87,820
Kidney and pancreas: 2,249

Annual mortality rates for dialysis patients (number of deaths per 1,000 patient years at risk, unadjusted):²

2008: 204.9
2007: 211.8
2006: 220.0
2005: 223.9
2000: 232.9
1995: 229.7
1990: 227.5

Dialysis survival (probability of patients surviving, from day 91 of ESRD, unadjusted):²

1 year (2007–2008): 79.6
2 years (2006–2008): 66.0
5 years (2003–2008): 34.5
10 years (1998–2008): 10.5

Annual mortality rates for transplant patients (number of deaths per 1,000 patient years at risk, unadjusted):²

2008: 31.3
2007: 32.6
2006: 33.2
2005: 33.7
2000: 34.5
1995: 33.8
1990: 33.6

Patient survival following deceased-donor transplant (probability of recipients surviving, from day 1 of transplantation, unadjusted):²

1 year (2007–2008): 95.5
2 years (2006–2008): 92.2
5 years (2003–2008): 81.4
10 years (1998–2008): 62.1

Patient survival following living-donor transplant (probability of recipients surviving, from day 1 of transplantation, unadjusted):²

1 year (2007–2008): 98.6
2 years (2006–2008): 97.1
5 years (2003–2008): 90.8
10 years (1998–2008): 76.6

Graft survival following deceased-donor transplant (probability of transplanted kidney surviving, from day 1 of transplantation, unadjusted):²

1 year (2007–2008): 90.8
2 years (2006–2008): 85.2
5 years (2003–2008): 69.1
10 years (1998–2008): 44.6

Graft survival following living-donor transplant (probability of transplanted kidney surviving, from day 1 of transplantation, unadjusted):²

1 year (2007–2008): 96.4
2 years (2006–2008): 93.4
5 years (2003–2008): 81.0
10 years (1998–2008): 59.1

Hemolytic Uremic Syndrome, Postdiarrheal

Incidence⁴

2009: 242 cases
2008: 330 cases
2007: 292 cases
2006: 288 cases
2005: 221 cases

Urologic Problems

Interstitial Cystitis/Painful Bladder Syndrome

Prevalence (2009): An estimation of prevalence in the United States is about 300 per 100,000 women and 30 to 60 per 100,000 men.⁵

Prevalence (2004): Of 1,218 U.S. women in a study group, 154 (12.6 percent) had likely interstitial cystitis, based on results of the Pelvic Pain and Urgency/Frequency Patient Symptom Scale. In the same study group, only 13 (1.1 percent) were classified as having interstitial cystitis by the O’Leary-Sant IC Symptom Index and Problem Index. The authors of the published research article suggest that the true prevalence lies somewhere between these two extremes.⁶

(1988–1994): More than 1.3 million (1,218,631 women and 82,832 men) U.S. adults ages 20 or older self-reported having been diagnosed with interstitial cystitis.⁷

Urinary Stones

Prevalence of kidney stones in children: In a study of U.S. children seen in the Pediatric Health Information System hospitals, the number of children diagnosed with urolithiasis increased from 125 in 1999 to 1,389 in 2008. Compared with total hospital patients, the proportion of patients with pediatric urolithiasis increased from 18.4 per 100,000 in 1999 to 57.0 per 100,000 in 2008.⁸

Hospital Discharges: The estimated number of hospital discharges among U.S. residents ages 15 or older with “calculus of kidney and ureters” as a primary diagnosis:

(2007): 135,000 hospital discharges⁹

(2005): 184,000 hospital discharges¹⁰

(2000): 177,000 hospital discharges¹¹

Physician office and hospital outpatient visits combined: The estimated number of doctor visits and outpatient hospital visits with urolithiasis as a listed diagnosis:

(2000): 2 million visits with urolithiasis as the primary diagnosis¹²

(2000): 2.7 million visits with urolithiasis listed as any diagnosis¹²

Cost (2000): \$2.07 billion expended for evaluation and treatment¹²

Urinary Tract Infections (UTIs)

Prevalence (1994): Percentages and counts of U.S. women and men who had a UTI in the past 12 months:

Women: 13.3 percent (12.8 million)¹³

Men: 2.3 percent (2 million)¹⁴

Hospital discharges: The estimated number of hospital discharges with UTI listed as a diagnosis:

(2007): 517,000 discharges⁹

(2005): 481,000 discharges¹⁰

(2000): 367,246 discharges in adults 18 years of age or older (121,367 men; 245,879 women)¹²

Physician office and hospital outpatient visits combined: The estimated number of doctor visits and outpatient hospital visits in U.S. adults 18 years of age or older:

(2000): 8.27 million visits (1.41 million men; 6.86 million women) with UTI as the primary diagnosis¹²

(2000): 11.02 million visits (2.05 million men; 8.97 million women) with UTI listed as any diagnosis¹²

Cost (2000): \$3.5 billion (\$1 billion for men; \$2.5 billion for women) expended for evaluation and treatment¹²

Urinary Incontinence (UI)

Prevalence (2007): UI is estimated to affect 9 to 22 percent of U.S. adults. In women, the prevalence of ever having UI increased from 21 percent in 19- to 44-year-olds to 34 percent in 45- to 64-year-olds to 39 percent among elderly women. In men, prevalence of UI increased from 5 percent in 19- to 44-year-olds to 11 percent in 45- to 64-year-olds to 21 percent in elderly males.¹⁵

Inpatient hospital stays: The estimated number of hospital admissions among U.S. adults ages 18 or older with UI listed as a diagnosis:

(2000): 47,802 hospital stays (1,332 men; 46,470 women)¹²

Physician office and hospital outpatient visits combined: The estimated number of doctor visits and outpatient hospital visits by U.S. adults ages 18 or older with UI listed as a diagnosis:

(2000): 207,595 visits (men) with UI as the primary diagnosis¹²

(2000): 1.16 million visits (women) with UI as the primary diagnosis¹²

(2000): 353,065 visits (men) with UI listed as any diagnosis¹²

(2000): 2.13 million visits (women) with UI listed as any diagnosis¹²

Cost (2000): \$463.1 million annually (\$10.3 million for men; \$452.8 million for women) expended for evaluation and treatment¹²

Other Related Problems

Enlarged Prostate (Benign Prostatic Hyperplasia [BPH]) and Lower Urinary Tract Symptoms (LUTS)

Prevalence (2000): 6.5 million of the 27 million Caucasian men ages 50 to 79 in the United States were expected to meet the criteria for discussing treatment options for BPH.¹⁶

BPH/LUTS (American Urological Association Symptom Score of 7 or greater) prevalence estimates for different ages:

40–49: 24 percent

50–59: 31 percent

60–69: 36 percent

70+: 44 percent¹⁶

Doctor visits: The estimated number of doctor visits by U.S. men ages 18 or older with BPH listed as a diagnosis:

(2000): 4.4 million visits with BPH listed as the primary diagnosis¹²

(2000): 7.8 million visits with BPH listed as any diagnosis¹²

Cost (2000): \$1.1 billion annually expended for evaluation and treatment¹²

Erectile Dysfunction (ED)

Prevalence (2007): ED prevalence in U.S. men ages 20 years and older based on data from the National Health and Nutrition Examination Survey is 18.4 percent, or 18 million men. The prevalence significantly increases with age, ranging from 5.1 percent in men 20 to 39 years of age to 70.2 percent in men 70 years of age and older.¹⁷

Doctor visits: The estimated number of doctor visits by U.S. men ages 18 or older with ED listed as a diagnosis:

(2000): 2.9 million visits with ED listed as a diagnosis¹²

Cost (2000): \$327 million annually expended for evaluation and treatment¹²

Prostate Cancer

Incidence (2010): The National Cancer Institute estimated that 217,730 U.S. men would be diagnosed with and 32,050 men would die of prostate cancer in 2010. The incidence rate of prostate cancer was 156.9 per 100,000 men per year from 2003 to 2007 and the death rate was 24.7 per 100,000 men per year. Based on rates from 2005 to 2007, one in 6 men will be diagnosed with prostate cancer during his lifetime.¹⁸

Doctor visits: The estimated number of doctor visits by U.S. men ages 18 or older with prostate cancer listed as a primary diagnosis:

(2000): 3.3 million visits with prostate cancer listed as a primary diagnosis¹²

Cost (2000): \$927 million annually expended for evaluation and treatment¹²

Sources

1. Centers for Disease Control and Prevention (CDC). National chronic kidney disease fact sheet: general information and national estimates on chronic kidney disease in the United States, 2010. Atlanta, GA: U.S. Department of Health and Human Services (HHS), CDC, 2010.
2. *USRDS 2010 Annual Data Report*. United States Renal Data System website. www.usrds.org/adr.htm. Accessed November 8, 2010. (The USRDS End-Stage Renal Disease Incident and Prevalent Quarterly Update is available at www.usrds.org/qtr/default.html.)
3. OPTN: Organ Procurement and Transplantation Network website. www.optn.transplant.hrsa.gov. Accessed February 17, 2011.
4. Notifiable diseases and mortality tables. *Morbidity and Mortality Weekly Report*. 2010;59(46).
5. Hanno P, Lin A, Nordling J, Nyberg L, van Ophoven A, Ueda T. Bladder pain syndrome international consultation on incontinence. In: Abrams P, Cardozo L, Khoury S, Wein A. *Incontinence*. 4th ed. Paris: Health Publication Ltd; 2009: 1459–1518.
6. Rosenberg MT, Hazzard M. Prevalence of interstitial cystitis symptoms in women: a population based study in the primary care office. *Journal of Urology*. 2005;174(6):2231–2234.
7. Clemens JQ, Joyce GF, Wise M, Payne CK. Interstitial cystitis and painful bladder syndrome. In: Litwin MS, Saigal CS, eds. *Urologic Diseases in America*. HHS, Public Health Service (PHS), National Institutes of Health (NIH), National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK). Washington, D.C.: U.S. Government Printing Office (GPO); 2007. NIH publication 07–5512:123–154.
8. Routh JC, Graham DA, Nelson CP. Epidemiological trends in pediatric urolithiasis at United States freestanding pediatric hospitals. *Journal of Urology*. 2010;184(3):1100–1105.
9. Hall MJ, DeFrances CJ, Williams SN, Golosinskiy A, Schwartzman A. National hospital discharge survey: 2007 summary. National health statistics reports; no 29. Hyattsville, MD: National Center for Health Statistics (NCHS). 2010.
10. DeFrances, CJ, Cullen KA, Kozak LJ. National hospital discharge survey: 2005 annual summary with detailed diagnosis and procedure data. NCHS. *Vital Health Statistics*. 2007;13(165).
11. Kozak LJ, Hall MJ, Owings MF. National hospital discharge survey: 2000 annual summary with detailed diagnosis and procedure data. NCHS. *Vital Health Statistics*. 2002;13(153).
12. Litwin MS, Saigal CS. Introduction. In: Litwin MS, Saigal CS, eds. *Urologic Diseases in America*. HHS, PHS, NIH, NIDDK. Washington, D.C.: GPO; 2007. NIH publication 07–5512:3–7.

13. Griebing TL. Urinary tract infection in women. In: Litwin MS, Saigal CS, eds. *Urologic Diseases in America*. HHS, PHS, NIH, NIDDK. Washington, D.C.: GPO; 2007. NIH publication 07-5512:587-619.
14. Griebing TL. Urinary tract infection in men. In: Litwin MS, Saigal CS, eds. *Urologic Diseases in America*. HHS, PHS, NIH, NIDDK. Washington, D.C.: GPO; 2007. NIH publication 07-5512:621-645.
15. Shamliyan T, Wyman J, Bliss DZ, Kane RL, Wilt TJ. Prevention of fecal and urinary incontinence in adults. Evidence report/technology assessment no. 161. Agency for Healthcare Research and Quality (AHRQ). Rockville, MD: AHRQ; 2007. AHRQ publication 08-E003.
16. Wei JT, Calhoun EA, Jacobsen SJ. Benign prostatic hyperplasia. In: Litwin MS, Saigal CS, eds. *Urologic Diseases in America*. DHHS, PHS, NIH, NIDDK. Washington, D.C.: GPO; 2007. NIH publication 07-5512:43-67.
17. Selvin E, Burnett AL, Platz EA. Prevalence and risk factors for erectile dysfunction in the US. *The American Journal of Medicine*. 2007;120:151-157.
18. SEER Stat Fact Sheets: Prostate. National Cancer Institute website. www.seer.cancer.gov/statfacts/html/prost.html. Updated 2010. Accessed December 6, 2010.

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